ICE MAKER OPERATION

Ice Maker Operating Cycles

1. FREEZE CYCLE

A. Temperature control terminals 2 and 3 are closed
B. Power to the compressor
C. Power to the condenser fan

2. HARVEST-1 CYCLE

A. Temperature control terminals 2 and 3 are open - 2 and 1 close
B. No power to the compressor or condenser fan
C. If bin arm is down, power goes through bin arm switch to ice maker motor and mold heater. If bin arm is up, the ice maker will not harvest.

3. HARVEST-2 CYCLE

A. Ice maker ejector blades reach approximately 2:00 position and cam depresses the hold switch. Power goes through the hold switch to the ice maker motor and mold heater.
B. Ejector blades stall on ice and ice maker motor pulsates until mold heater warms and ice releases.

4. WATER FILL CYCLE

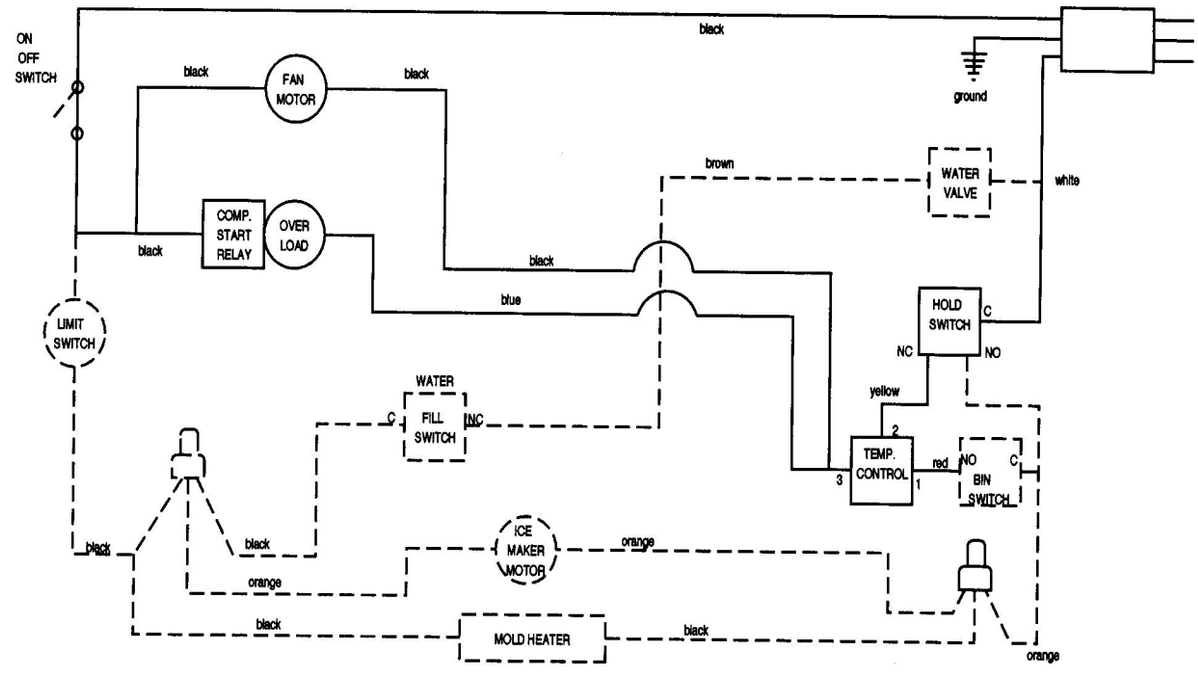
A. Ice maker ejector blades reach approximately 10:00 position and cam depresses the water fill switch.
B. Power to the water valve. Ice maker mold fills.

5. EJECT CYCLE

A. Ejector blades push ice into bucket and stop at 12:00 position.
B. Temperature control terminals 2 and 3 have closed during harvest cycle.
C. Next freeze cycle begins with power to the compressor and condenser fan.

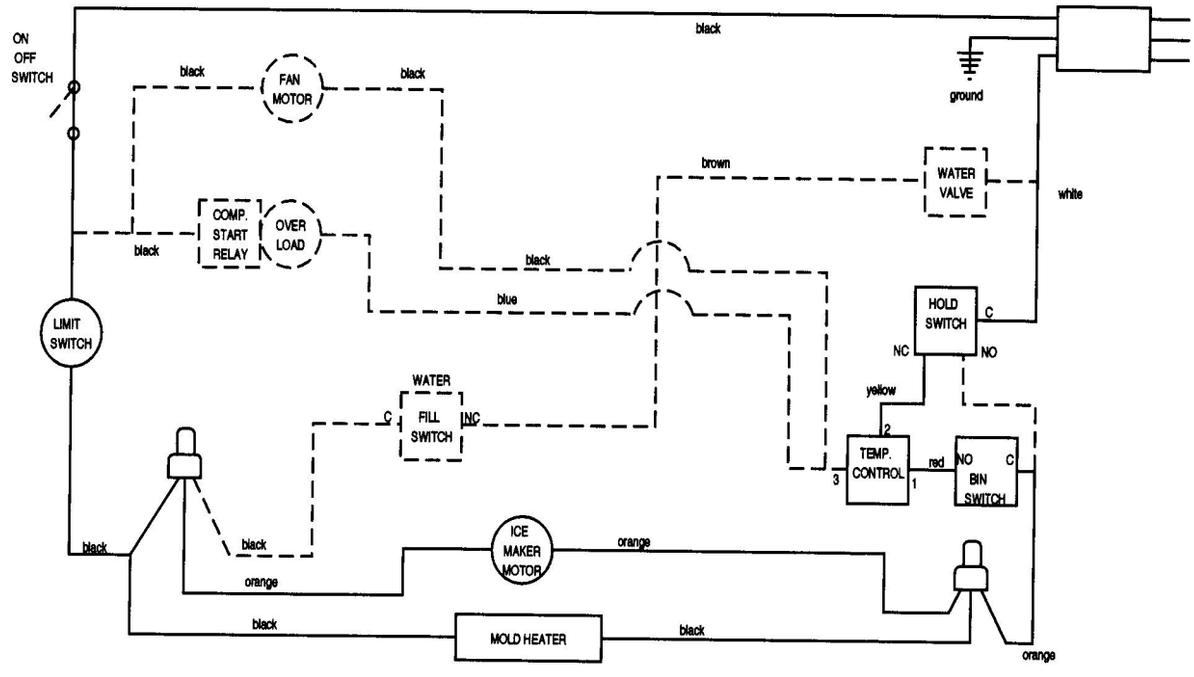
Cycle Schematics

FREEZE CYCLE



UL183-4

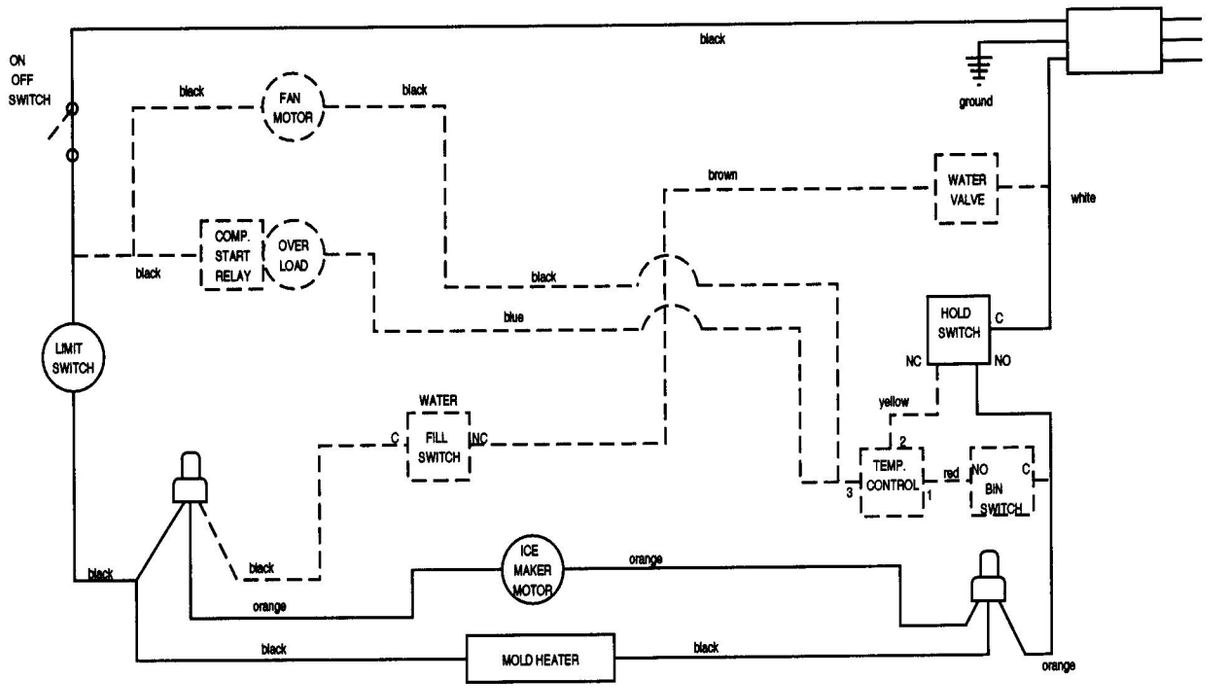
HARVEST-1 CYCLE
(Hold Switch In Normal Position)



UL183-5

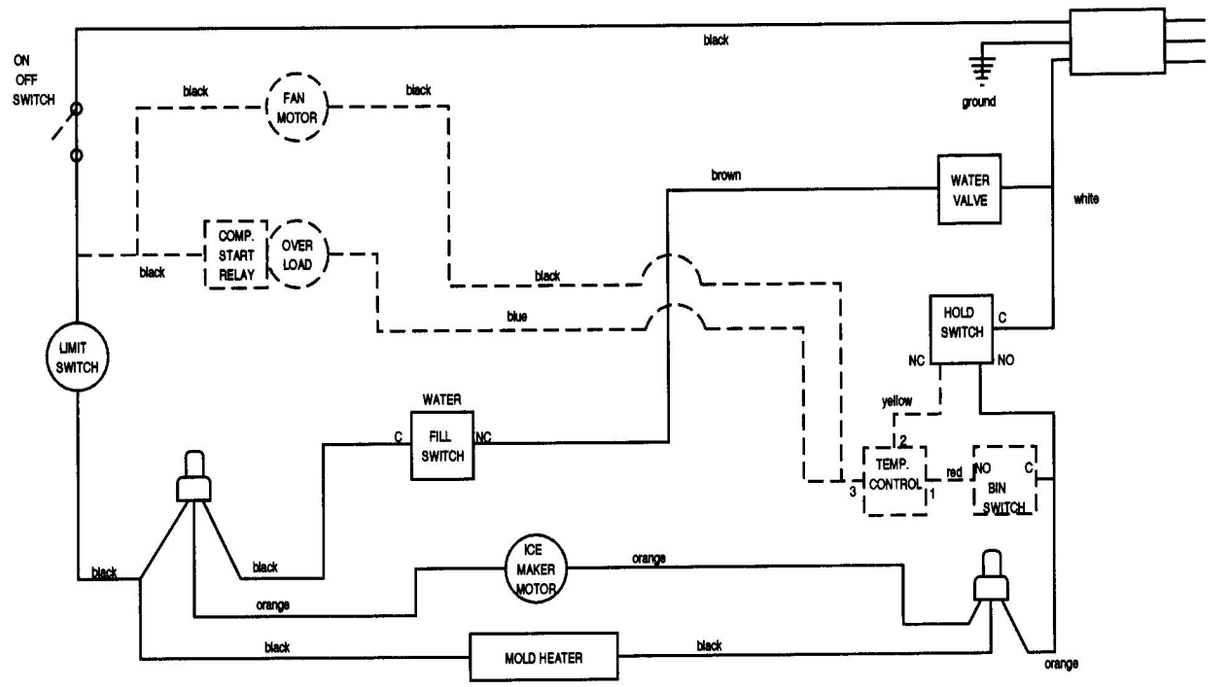
Cycle Schematics

HARVEST-2 CYCLE
(Hold Switch In Switched Position)



UL183-6

WATER FILL CYCLE

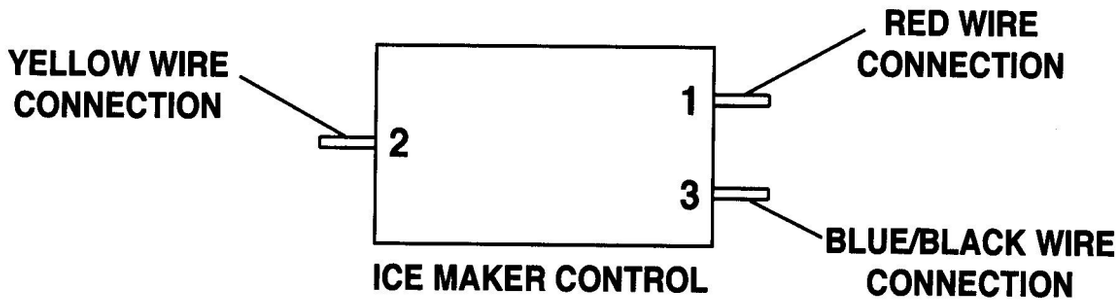


UL183-7

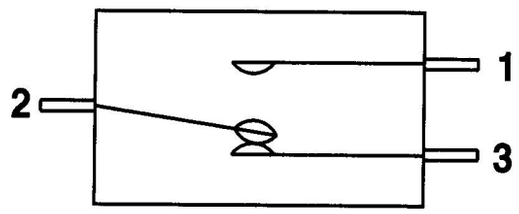
Temperature Control Specifications

Double Throw Ice Maker Thermostat Numbers
4548, AR-19-12, 2636, 2690, 2691, 2717

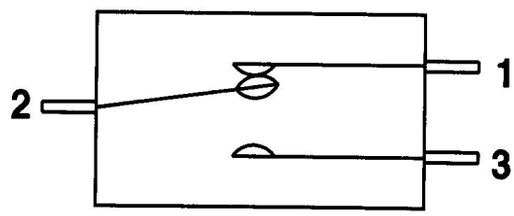
These temperature controls are double throw, single pole controls. The sensing tube is inserted into the ice maker mold and senses mold temperature. After ice is sensed in the mold, the 2-3 contacts open (stopping the compressor) and the 2-1 contacts are closed (starting the ice maker motor). The 2-3 contacts close (2-1 contacts open) before the end of the ice harvest cycle. This prepares the control for the next cycle.



183-8



FREEZE POSITION

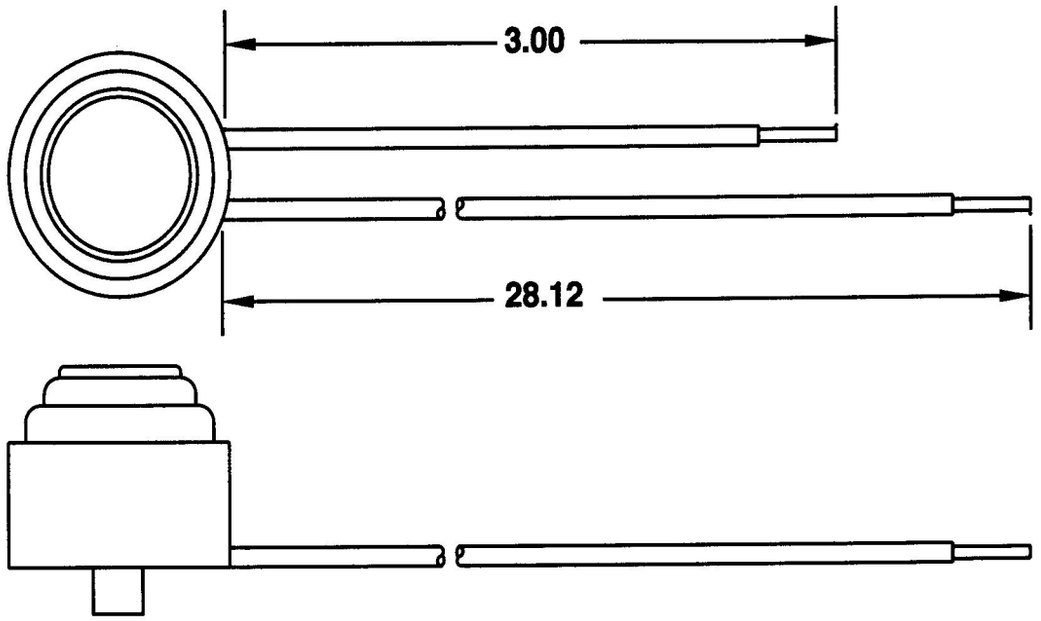


ICE HARVEST POSITION

CYCLE	OPEN□ CIRCUIT	CLOSED□ CIRCUIT
FREEZE	2 - 1	2 - 3
HARVEST	2 - 3	2 - 1

183-9

Limit Switch Specifications

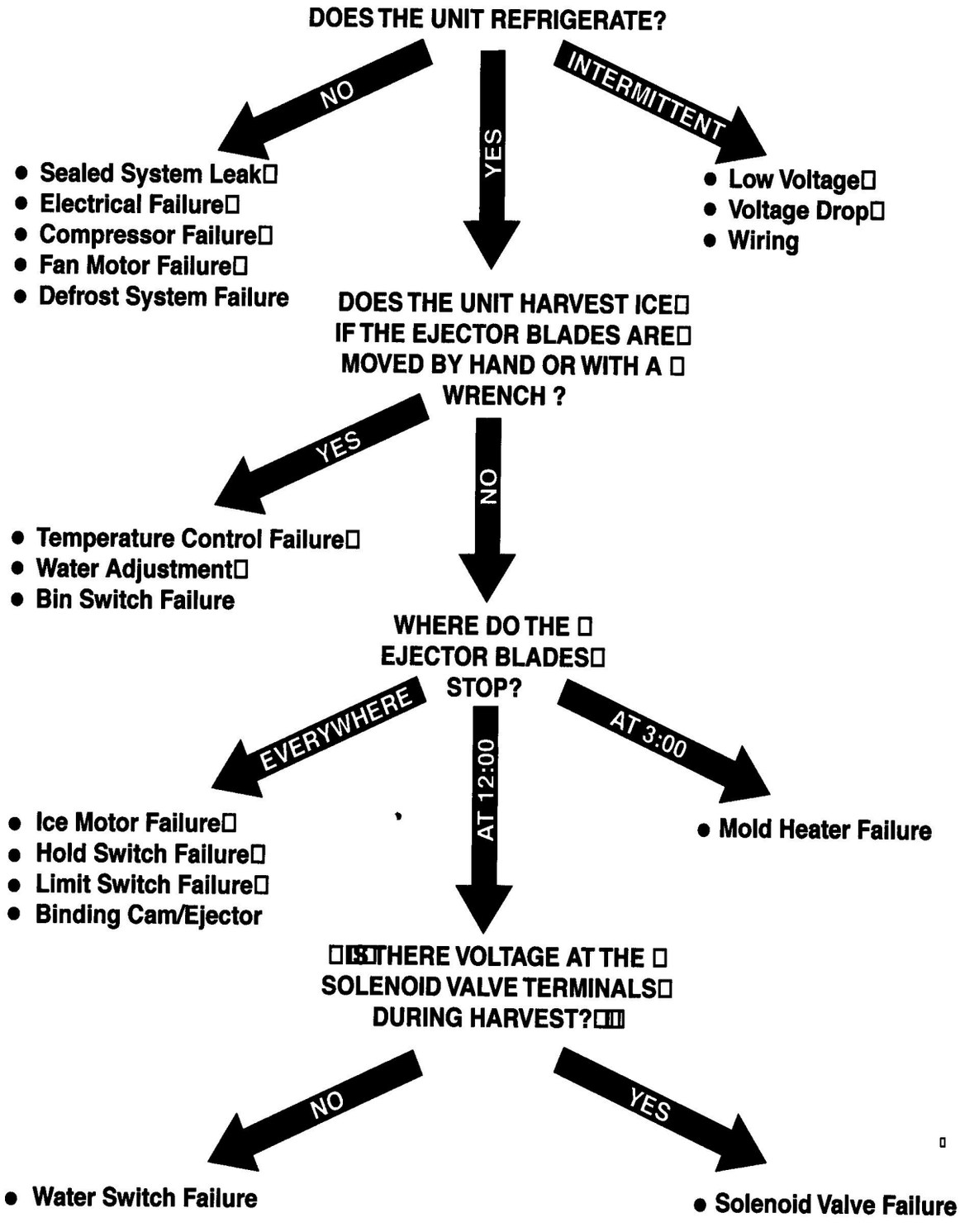


183-10

Normally Closed Bi-metal Switch
Open Temperature: 104 Degrees F
Close Temperature: 83 Degrees F

The function of this switch is to open in the event of an overheating condition. This bi-metal thermostat is normally closed and does not initiate the ice harvest cycle. The ice harvest cycle is initiated by a double throw, single pole switch located remotely from the ice maker assembly.

Ice Maker Diagnosis Flow Chart



UL183-11

FROST FREE UNITS

Redesign Differentiation

Through our continuous efforts to improve our product line, U-Line Corporation has made some changes to the design of Models Combo 29FF and Combo 75FF.

The objective of this section is to assist the service technician in differentiating between the previous design product and the new redesign.

The redesign involves a new compressor, evaporator and heat exchanger, condenser fan motor, evaporator fan motor, drain trough, timer and power cord.

To address service problems which may exist in earlier designs, we developed a "Field Fix Kit." It involves replacing the compressor, dryer, and hot gas valve. It also includes mounting a sheet of insulation to the back panel. Before installing the new compressor, hot gas bypass valve, and dryer, it is imperative that the entire refrigeration system be blown out with nitrogen to remove any excess oil. This kit is to be installed in units with R-134a only starting with serial number 7CF300000 or 2CF300000. Installation instructions are included in each kit ordered.

The new compressor, a Matsushita Model SD39C replaces the previous compressor, an Embraco EMI 50 HER.

Both the previous design and the new redesign are detailed in this manual. New design units and previous design units can be differentiated by the serial numbers. All serial numbers for the new redesigned units start with a number higher than 600000. (Example: 2CF600001 is a new redesigned Combo 29FF.) Previous design units have serial numbers which start with 300001, 400001, or 500001. (Example: 7CF400001 is a previous design Combo 75FF.)

Pages 45-46 show the parts breakdown for the previous design of the Combo 29FF. The parts replaced with the kit are denoted. The wiring diagram for this model is on page 36.

Pages 41-42 show the parts breakdown for the previous design of the Combo 75FF. The parts replaced with the kit are denoted. The wiring diagram for this model is on page 36.

Pages 47-48 show the parts breakdown for the new, redesign of the Combo 29FF. The wiring diagram for this model is on page 37. The information for the hybrid redesign of the Combo 29FF can be found in the Échelon Service Manual.

Pages 43-44 show the parts breakdown for the new, redesign of the Combo 75FF. The wiring diagram for this model is on page 37.